

PATENT CLAIMS

What is claimed is:

- 5 1. An insulation structure for the internal insulation of a vehicle, which
comprises an insulation package (3), implemented using an insulation, and a
film (11), which is positioned inside an intermediate space that includes
internal paneling and an external skin of the vehicle,
wherein the insulation package (3) is implemented homogeneously using a
10 first (burn-through safe) insulation (1a), whose insulation material is burn-
through safe.
- 15 2. An insulation structure for the internal insulation of a vehicle, which
comprises an insulation package (3), implemented using an insulation, and a
film (11), which is positioned inside an intermediate space that includes
internal paneling and an external skin of the vehicle,
wherein the insulation package (3) is constructed using distinct insulation
regions (A, b, C), which are implemented using a first insulation (1a), whose
insulation material is burn-through safe, and a second insulation (1b), whose
20 insulation material is burn-through unsafe, these insulation regions being
positioned along a finite series and laid next to one another up to a final
insulation region (A, B, C), whose insulation material is exchanged in
alternating sequence.
- 25 3. An insulation structure for the internal insulation of a vehicle, which
comprises an insulation package (3), implemented using an insulation, and a
film (11), which is positioned inside an intermediate space that includes
internal paneling and an external skin of the vehicle,
wherein the insulation package (3) is implemented homogeneously using a
30 second insulation (1b) (an identical insulation), whose insulation material is
burn-through unsafe, in which multiple burn-through safe barrier layers (14,
14a) are integrated.
4. The insulation structure of claim 2,

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wherein a first insulation region (A) and an insulation region terminating the series are implemented using the insulation material of the first insulation (1a).

- 5 5. The insulation structure of claim 2,
 wherein a second insulation region (B), which is implemented using the burn-
 through unsafe insulation material of the second insulation (1b), is laid next
 to each of a first and a third insulation region (A, C), which are equipped with
 the burn-through safe insulation material of the first insulation (1b), and
10 following the third and each further insulation region (A, C), which are
 equipped with the burn-through safe insulation material of the first insulation
 (1b), a further insulation region (B) is positioned, which is equipped with the
 burn-through unsafe insulation material of the second insulation (1b).
- 15 6. The insulation structure of claim 3,
 wherein the single barrier layer (14, 14a)(shown in Figure 5) leads without
 interruption through the second insulation (1b) and up to the peripheral edge
 (R) of the second insulation (1b).
- 20 7. The insulation structure of claim 3,
 wherein the vertical course of the single barrier layer (14a, 14b) is delimited
 by two vertically diametrically opposed and horizontally positioned boundary
 faces (x, y) of the second insulation (1b).
- 25 8. The insulation structure of claim 3,
 wherein the single barrier layer (14a, 14b) leads close to or presses against
 the two boundary faces (w, z) of the second insulation (1b), which are
 horizontally diametrically opposing and vertically positioned.
- 30 9. The insulation structure of claim 3,
 wherein a closed course of the barrier layers (14a, 14b) is implemented by the
 second insulation (1b), which is implemented as straight or zigzagged or
 curved.

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10. The insulation structure of claim 9,
wherein the curved course of the single barrier layer (14a, 14b) is designed as sinusoidal or cosinusoidal.
- 5 11. The insulation structure of claims 1 through 3,
wherein the first and the second insulation or the insulation regions of the barrier layers are situated in a position approximately parallel to the external skin.
- 10 12. The insulation structure of claims 1 through 3,
wherein the vertical position of the insulations (1a, 1b) or the insulation regions (A, B, C) or the barrier layers (14a, 14b) is tailored to the contour (outline) or the curvature of the external skin.
- 15 13. The insulation structure of claims 1 through 3,
wherein the film (11), the first insulation (1a), and the barrier layers (14a, 14b) are implemented using a material of high fire resistance, which is implemented as sufficiently resistant and/or insensitive to occurring fire, because of which propagation of the fire, which would flame against a
20 surface region of the barrier layer in this situation, is prevented.
14. The insulation structure of claim 13,
wherein the first insulation and/or the barrier layers (14a, 14b) are implemented using a fireproof fibrous material.
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15. The insulation structure of claim 14,
wherein the fibrous material is implemented using ceramic, carbon, or silicate fibers.
- 30 16. The insulation structure of claims 1 through 3,
wherein the insulation package (3) is completely enveloped by the film (11).
17. The insulation structure of claims 1 through 3,

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wherein the insulations (1a, 1b) or the insulation regions (A, B, C) are completely enveloped by the film (11).

18. The insulation structure of claims 3 and 17,
5 wherein the second insulation (1b), including the barrier layers (14a, 14b), is completely enveloped by the film (11).
19. The insulation structure of claims 1 through 3,
10 wherein a use of the first insulation (1a) and the barrier layers (14a, 14b) as a fire barrier is considered.